## IN THE CLAIMS:

1       Claims 1-3 (Canceled)


1       4.  (Currently amended) A method <u>executed in a computer system having at</u>

2  <u>least one processor for</u> ~~of~~ determining ~~the~~ axial rotation of a pelvis from a single

3  fluoroscopic image, comprising

4       A.  <u>receiving</u> ~~forming~~ a fluoroscopic image of said pelvis in the near AP

5  direction;

6       B.  defining first and second landmarks of said pelvis on said image, said

7  landmarks separated from each other in at least an anterior-posterior direction;

8       C.  determining the transaxial displacement of said landmarks on said image;

9  <u>and</u>

10       D.  using said displacement <u>to determine</u> ~~as a measure of~~ the axial rotation of

11  said pelvis with respect to the plane of said fluoroscopic image.


1       5.  (Original) A method according to claim 4 in which said first landmark

2  comprises the image point of the pubic symphysis.


1       6.  (Original) A method according to claim 5 in which said second landmark

2  comprises the midpoint of a line between the image points of the left and right

3  sacroiliac joints.


1       7.  (Original) A method according to claim 4 in which said displacement is

2  normalized with respect to the separation between a further pair of landmarks.


1       8.  (Original) A method according to claim 7 in which said further pair of

2  landmarks comprises the left and right teardrops.

1   9.  (Currently amended) A method <u>executed in a computer system having at</u>

2   <u>least one processor for</u> ~~of~~ determining the transaxial rotation of a pelvis from a single

3   fluoroscopic image, comprising

4       A.  <u>receiving</u> ~~forming~~ a fluoroscopic  image of said pelvis in the near AP

5   direction;

6       B.  defining first and second landmarks of said pelvis on said image, said

7   landmarks separated from each other in at least an anterior-posterior direction;

8       C.  determining the axial displacement of said landmarks on said image; <u>and</u>

9       D.  using said displacement as a measure of the transaxial rotation of said

10  pelvis with respect to the plane of said fluoroscopic image.


1   10.  (Original) A method according to claim 9 in which said first landmark

2   comprises the image point of the pubic symphysis.


1   11.  (Original) A method according to claim 10 in which said second

2   landmark comprises the midpoint of a line between the image points of the left and

3   right sacroiliac joints.


1   12.  (Original) A method according to claim 11 in which said displacement is

2   normalized with respect to the separation between a further pair of landmarks.


1   13.  (Original) A method according to claim 12 in which said further pair of

2   landmarks comprises the left and right teardrops.


1   14.  (Original) A method according to claim 12 in which the transaxial

2   rotation is taken as a function of the relation of said displacement to the

3   corresponding displacements on the fluoroscopic images of a sample of pelvises

4   taken at known orientation to the fluoroscopic image plane.

15. (New) A computer-readable medium comprising instructions executable by at least one processing entity for determining a patient-specific pelvic coordinate system from a single near AP intra-operative image of the patient, the medium comprising:

instructions to receive a single intra-operative fluoroscopic image of the patient's pelvis in the near AP direction;

instructions to define first and second landmarks of said pelvis on said image, said landmarks being separated from each other in at least an anterior-posterior direction;

instructions to determine the transaxial displacement of said landmarks on said image;

instructions to determine the axial displacement of said landmarks on said image;

instructions to calculate an axial rotation of said pelvis with respect to the plane of said image based on the transaxial displacement, and

instructions to calculate a transaxial rotation of said pelvis with the respect to the plane of said image based on the axial displacement.

16. (New) The computer-readable medium of claim 15 wherein said first landmark comprises the image point of the pubic symphysis.

17. (New) The computer-readable medium of claim 15 wherein the second landmark comprises the midpoint of a line between corresponding points on said image of the left and right sacroiliac joints.

18. (New) The computer-readable medium of claim 15 wherein said displacements are normalized with respect to the separation between a further pair of landmarks on the pelvis.

1      19. (New) The computer-readable medium of claim 18 wherein said further

2    pair of landmarks comprises the left and right teardrops.


1      20. (New) The computer-readable medium of claim 4 wherein the transaxial

2    rotation is taken as a function of the relation of said axial displacement to the

3    corresponding displacements of electronic images of a sample of pelvises taken at a

4    known orientation to said fluoroscopic image.


1      21. (New) The computer-readable medium of claim 15 wherein the axial

2    displacement is k, and the transaxial rotation is a function of:

3        $v - v_o$

4        where $v_o$ is the axial displacement distance corresponding to a non-rotated

5    pelvis.